3. Black Friday

Program Name: BlackFriday.java Input File: blackfriday.dat

To avoid the yearly rampage, fighting and dismemberment of Black Friday shopping, a local store is instead having a drawing daily for prizes. Each day shoppers will be able to get free tickets for the sale items they want. At the end of the day there will be a drawing for each item, in alphabetical order, to see who gets to purchase it at the low, low price. The store wants you to write a program to perform the drawing and print the information for each day's worth of drawings.

For the drawings, the store has purchased a large roll of ticket stubs which start at number 100 and increment by 1. You can assume there is no limit to how high the ticket numbers go. Every ticket in a drawing for a given item has an equal chance of winning. When determining the winner of that item via Random, put the tickets for that item in the order they were distributed and choose one at random using the ticket location as an array index. The winner can then be determined from the winning ticket number.

For each day's drawing, you will need to construct one object of the type java.util.Random. This class allows you to specify the seed for the random number generator. For a given seed, the order of the random numbers is always the same.

Input

The first line of input will contain a single integer n that indicates how many days' worth of drawings there will be. For each day's drawings, there will be:

- a single line containing a long which is the seed for the random object you should use for the drawing.
- a single line containing a single non-negative integer m denoting the number of people who got tickets for the current day.
- m lines, each containing the name of a person, followed by a space and a space delimited list of the names of each of the sale items that person got tickets for.

Tickets will be given out in the order the items are read in from the file. The next day's tickets will continue where the first day's left off, so if 10 tickets were given out on the first day, then the first ticket given out the second day is numbered 110.

Output

For each day, you will print, on a single line, Day X: Y tickets were given out, where X is the day number, starting at 1, and Y is the number of tickets given out on that day. Then, for each drawing that happened, in alphabetical order by item name, you will print three spaces (to indent the line), then X: P won with ticket Y, where X is the name of the item, P is the name of the person and Y is the ticket number that won.

Example Input File

1
354887534
6
Bob Pants Shirt TV
Steve Shirt Car Shoes TV
Stacy Pants Shirt Shoes DVD TV
Mickey Car Shoes Pants TV
James Keyboard Socks DVD TV
Tickles TV

Random numbers generated:

354887534: 1 0 0 2 0 0 0 5

Example Output to Screen

Day 1: 21 tickets given out
Car: Mickey with ticket 112
DVD: Stacy with ticket 110
Keyboard: James with ticket 116
Pants: Mickey with ticket 114
Shirt: Bob with ticket 101
Shoes: Steve with ticket 105
Socks: James with ticket 117
TV: Tickles with ticket 120